

**ABSTRACT**

A system for determining the location of a disturbance event in a power distribution system. More specifically, the present invention provides a system for determining the direction of a disturbance event at the individual meter location and a system for analyzing this data from multiple meter locations to locate the cause of the event in the power system. The system includes a power feed bus for supplying electrical signals and a circuit monitor coupled to the feed bus. The circuit monitor is responsive to detect the disturbance event by comparing a disturbance event signal with a pre-event signal on a plurality of time scales.